



TMDL Meeting
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Department of Pesticide Regulation
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Surface Water Monitoring of RIFA and OP Insecticides

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Outline

- Introduction
- Monitoring Plan
- Insecticides
- Results & Discussion
- Conclusions

Introduction

- RIFA treatments - large geographic area
- Surface-water runoff potential
- Historical monitoring data
- Aquatic toxicity
- Runoff prevention and mitigation

Monitoring Program

- Insecticide Concentration
 - Offsite movement
- Dissipation study
 - Turf, Soil, Water
- Assessing Mitigations

The Insecticides

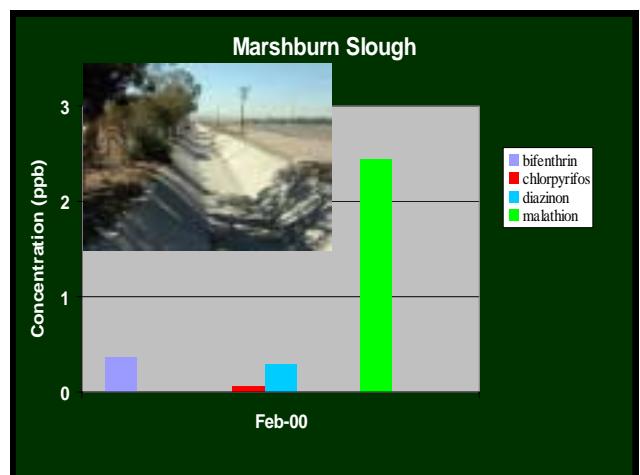
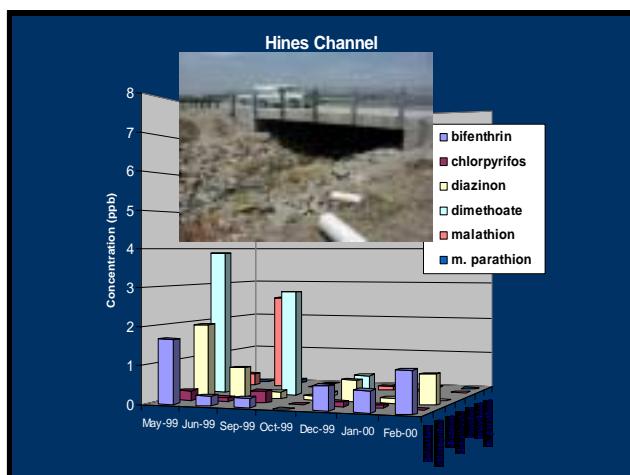
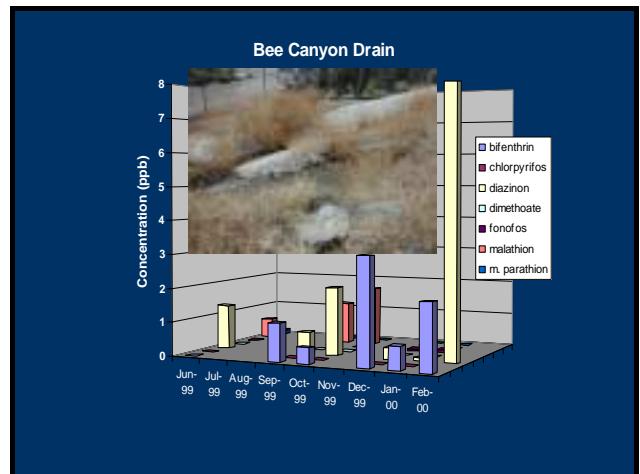
- Bifenthrin (Talstar®)
- Chlorpyrifos (Dursban®, Lorsban®)
- Diazinon
- Fenoxy carb (Award®)
- Hydramethylnon (Amdro®)
- Pyriproxyfen (Distance®)
- Malathion, fonofos, methidathion, methyl parathion, dimethoate, phosmet

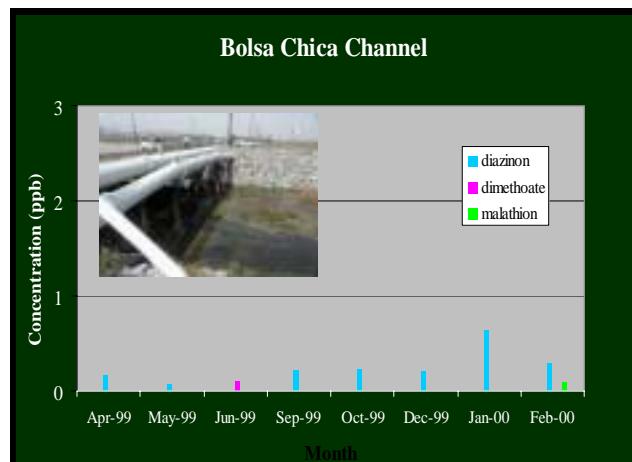
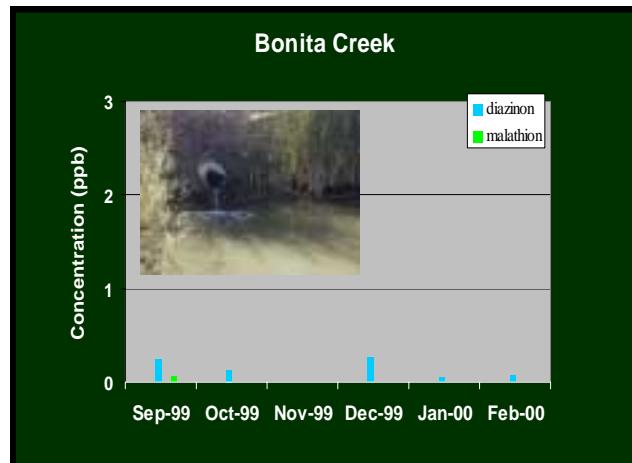
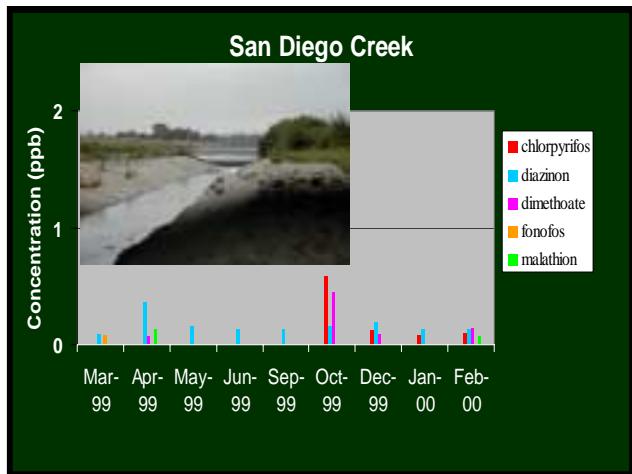
Physico-Chemical Properties

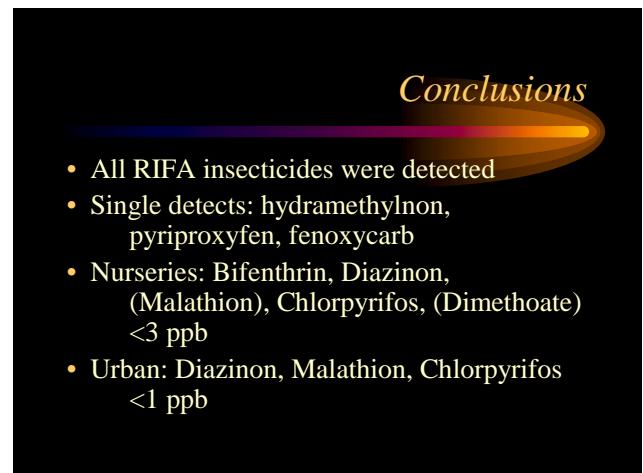
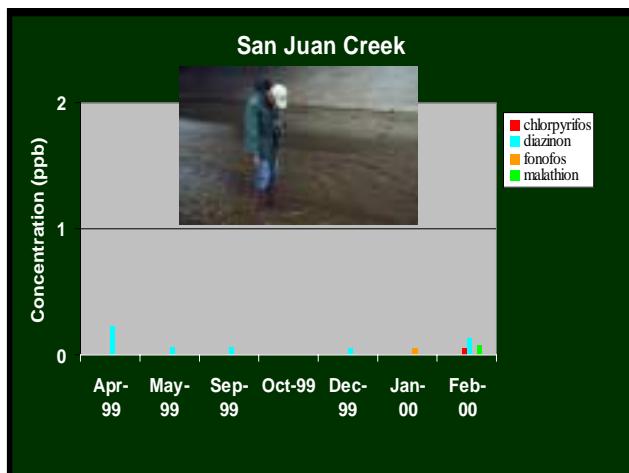
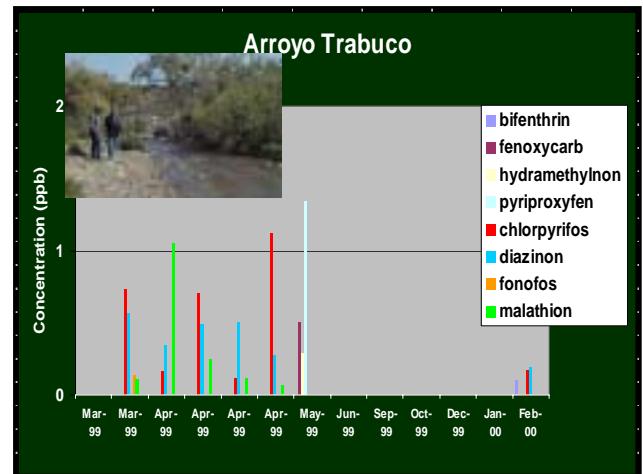
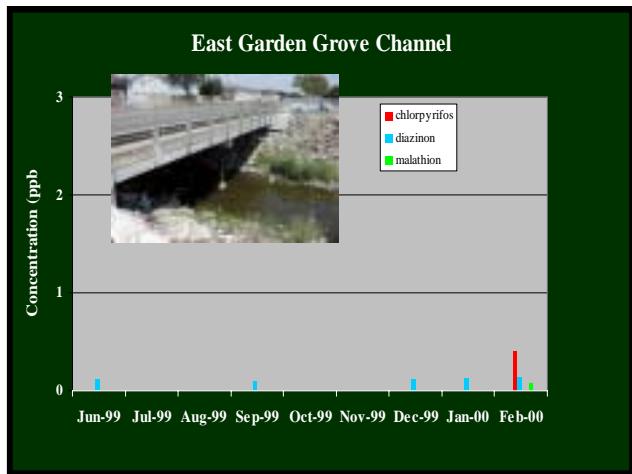
Pesticide	Sol.	Koc	FD
Bifenthrin	0.1	302,000	345
Chlorpyrifos	1.4	12,000	56
Diazinon	60	1,800	30
Fenoxy carb	5.7	2,600	36
Hydramethylnon	0.9	360,000	55
Pyriproxyfen	0.4	34,000	86

Aquatic Toxicity (LC_{50})

Pesticide	R. Trout (ppb)	D.Magna (ppb)
Bifenthrin	0.15	0.16
Chlorpyrifos	3	1.7
Diazinon	2600	0.96
Fenoxy carb	1600	400
Hydramethylnon	160	1140
Pyriproxyfen	325	400
Malathion	170	1.8







Acknowledgment

- Calif. Dept. of Food & Agriculture
 - Center for Analytical Chemistry
 - Pest Detection/Emergency Project
- Santa Ana RWQC B
- State Water Resource Control Board
- Dept. of Health Services
- Calif. Department of Fish & Game
- Co. Agric. Commissioners
- UC Cooperative Extension
- Nursery Industries